2007–2008

Saskatchewan

Provincial Budget

Performance Plan

Safe Drinking Water Strategy

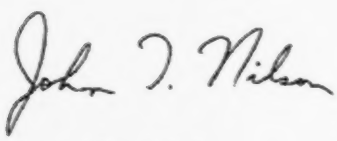
Minister's Message

It is my pleasure to present the 2007-08 Performance Plan for the Safe Drinking Water Strategy, on behalf of the various government departments and agencies involved.

Safe drinking water is essential to the health and economic well-being of the people of Saskatchewan. Many of the key actions and initiatives outlined in this Performance Plan are underway and are intended to protect and improve the sustainability and quality of Saskatchewan's drinking water supplies and source waters. Public safety and environmental protection through better management of drinking water and wastewater systems remain key priorities of the Strategy. Infrastructure investments and policy responses outlined within this Plan will help to ensure that Saskatchewan residents have a clean supply of drinking water in the future. The departments and agencies co-operating in the Strategy will continue to work with waterworks owners, operators, landowners and other stakeholders to improve the management of drinking water and source water quality.

The departments and agencies participating in the Strategy include Saskatchewan Environment, Saskatchewan Watershed Authority, Saskatchewan Government Relations, Saskatchewan Health, Regional Health Authorities, SaskWater and Saskatchewan Agriculture and Food. The departments and agencies are committed to completing the key actions identified in this Performance Plan and have incorporated these actions in their departmental performance plans. The following pages provide more detail on our plans for meeting our objectives and reporting on the actual progress of the Strategy to the people of Saskatchewan through the *2007-08 State of Drinking Water Quality Report* in July 2008.

Whether Saskatchewan residents receive drinking water from large municipal waterworks, smaller water treatment plants or rural water pipelines, our citizens need assurance of the safety and security of their drinking water. Ultimately, our goal is to have an even greater impact in the future as we work together to improve the quality of drinking water and the sustainability of the systems which produce it.



John T. Nilson, Q.C.
Minister of Environment

About the Safe Drinking Water Strategy

The Safe Drinking Water Strategy (SDWS) is Saskatchewan's comprehensive plan of action designed to deal with the risks that affect drinking water and impact the health of the Province's people. The SDWS was created as one of a series of Government measures to address drinking water and source water quality and management following the tragedy in Walkerton, Ontario, where a number of people died because of contaminated drinking water. It also responds to recommendations from the North Battleford Commission of Inquiry, which examined the waterborne Cryptosporidiosis outbreak that affected that city in 2001. The Strategy was first announced in April 2002, and since that time has made significant progress in advancing drinking water and source water protection in the province. Key actions and regulatory improvements are planned for 2007-08 to continue progress on water management in Saskatchewan.

Several departments and agencies are involved in implementing the Strategy including Saskatchewan Environment (SE), Saskatchewan Health (SH), Regional Health Authorities (RHAs), Saskatchewan Watershed Authority (SWA), SaskWater, Saskatchewan Government Relations (SGR) and Saskatchewan Agriculture and Food (SAF). These departments and agencies deliver Saskatchewan's regulatory programs and advisory services for drinking water and wastewater management for public and semi-public waterworks across the province, water source protection, watershed planning and most activities that may affect the quality of water. Their programs include:

- an enhanced regulatory environment administered by SE, SGR, SH and RHAs, that results in improved inspection and compliance actions, water related problem follow-up, water sample analysis, ongoing efforts to promote operator certification and efforts to enhance public information and accountability surrounding water quality;
- comprehensive management of the development and conservation of Saskatchewan watersheds and source waters through the Saskatchewan Watershed Authority;
- ongoing operation of SaskWater as a self-sustaining commercial operation providing cost effective water management infrastructure and consulting services to Saskatchewan communities;
- support for priority drinking water and wastewater infrastructure improvement through available grant programs administered by SGR;
- emphasis on initiatives to aid in the prevention of water contamination by agricultural operations by SAF; and
- legislation and integrated actions to aid in the protection of water sources and supplies by SE, SWA, SGR, SAF, SH and the RHAs.

Key partners outside the provincial government include the federal government through the Canada-Saskatchewan Municipal Rural Infrastructure Fund (CSMRIF) and the past Canada-Saskatchewan Infrastructure Program (CSIP), the Saskatchewan Urban Municipalities Association (SUMA), the Saskatchewan Association of Rural Municipalities (SARM), the Saskatchewan Water and Wastewater Association (SWWA) and the Operator Certification Board (OCB). SARM and SUMA continue to serve as key partners through development and implementation of the Strategy, legislation and regulation. SWWA and the OCB have been instrumental in advancing waterworks operator certification in the province. The OCB is appointed by government but operates at arm's length in considering the qualification and standing of water and wastewater works operators in the province. SE leads the ongoing planning and policy work of the SDWS to which participating departments and agencies contribute.

There have been no restructuring or major organizational changes since the release of the 2006-07 Performance Plan. Further information on the Safe Drinking Water Strategy is available on the Internet at: http://www.saskh2o.ca/news.asp and http://www.se.gov.sk.ca/environment/protection/water/Water_report_April_2003.pdf.

Plan at a Glance

Partners in the Strategy continue to work towards achieving multi-year goals and objectives in support of meeting the Strategy's vision. This fourth publicly released performance plan builds on the progress achieved through the 2006-07 Plan. The Plan has and continues to evolve as the strategic planning, performance management and public reporting processes evolve and stakeholder feedback is incorporated. As in past years, we will report actual progress compared to our planned progress in the *2007-08 State of Drinking Water Quality Report*, scheduled for release in July 2008. The key actions contained in this Performance Plan relate only to 2007-08 and support continued progress towards the Plan's multi-year goals and objectives. A set of performance measures is also in place to gauge progress in achieving the objectives.

Below is a summary of the 2007-08 Performance Plan for the Safe Drinking Water Strategy.

VISION

A sustainable, reliable, safe and clean supply of drinking water that is valued by the citizens of Saskatchewan

GOAL 1

Waterworks systems and operations provide safe, clean and sustainable drinking water

OBJECTIVE 1 – *Waterworks staff are capable and well trained*

Performance Measure

- Per cent of communities with human consumptive waterworks whose operators have received some level of certification

OBJECTIVE 2 – *Infrastructure produces water that meets the national drinking water quality guidelines*

Performance Measures

- Per cent of facilities that meet bacteriological guidelines 90 per cent of the time
- Per cent of waterworks (regulated by SE) that meet disinfection requirements 90 per cent of the time
- Number of waterworks that do not meet Saskatchewan Environment's minimum treatment requirements (broken down by pre and post regulatory changes)

OBJECTIVE 3 – *Waterworks systems and operations are financially sustainable*

Performance Measure

- Number and percentage of municipalities that have reported waterworks information on the financial sustainability of their systems and number and percentage that have reported that have rates that cover waterworks expenditures and debt payments

GOAL 2

The drinking water regulatory system is clear and effective

OBJECTIVE 1 – *Regulations are clear and ensure that health and drinking water quality will be protected*

Performance Measure

- Number of accredited drinking water testing laboratories

OBJECTIVE 2 – *Professional regulatory staff have access to the tools necessary to ensure compliance*

Performance Measure

- Number and average duration of visits to the www.saskh2o.ca website

GOAL 3

High quality source waters are protected now and into the future

***OBJECTIVE 1** – Risks to source water quality are known*

Performance Measure

- Number of sewage effluent discharges that represent a risk to source waters

***OBJECTIVE 2** – Watersheds are protected, natural purification and protection processes are maximized and potential for contamination is minimized*

Performance Measures

- Number and percentage of municipalities with by-laws in place to protect their drinking water supplies
- Water Quality Index ratings for lakes
- Water Quality Index ratings for rivers

GOAL 4

Citizens and consumers trust and value their drinking water and the operations which produce it

***OBJECTIVE 1** – Consumers value quality water and are willing to pay for it*

Performance Measure

- Per cent of survey respondents indicating that they are willing to pay more for their drinking water

***OBJECTIVE 2** – Citizens and consumers trust the quality and reliability of their drinking water systems and are confident in the regulatory system*

Performance Measure

- Per cent of survey respondents indicating that they are very or somewhat confident, in the quality of their tap water

***OBJECTIVE 3** – Citizens have meaningful access to information about the quality of their water*

Performance Measure

- Number of system owners that publicly release water quality results

***OBJECTIVE 4** – Reduced consumption of water*

Performance Measure

- Average per capita consumption of water (gallons per day)

2007-08 Financial Overview

In 2007-08, the Province will invest $15.403 million in safe drinking water. Funding for this Strategy comes from various government departments and agencies and is contained in their respective appropriation.

2007-08 APPROPRIATION	*(in thousands of dollars)*[1]
Environment – overall co-ordination of the Strategy, regulation and inspection of municipal and larger waterworks and water quality standards	$ 3,187
Saskatchewan Watershed Authority – comprehensive management of the planning, use, development, conservation and protection of Saskatchewan watersheds, source waters, and water management infrastructure	7,184
Health – regulation and inspection of smaller semi-public waterworks, deals with waterborne illnesses and water sample analysis	1,305
Government Relations – federal and provincial water infrastructure assistance under:	
CSIP*	1,417
CSMRIF**	2,310
Total Appropriation	$ 15,403

* *Includes CSIP projects that must be completed by March 31, 2008, when the program ends. The stated $1.417 million is provincial funding only.*

** *Includes incompleted CSMRIF projects from the first intake and new approvals from the second intake. Second intake approvals are for 2007-08 and 2008-09. Values are estimated based on projects likely to be completed in 2007-08. The stated $2.310 million is provincial funding only.*

Trends and Issues

The following is a summary of the major items that can impact drinking water quality and the future plans of the SDWS to address the associated challenges. Key actions, objectives, goals and performance measures for the Safe Drinking Water Strategy are reviewed annually in combination with an overall scan of relevant developments and issues as a means to address trends and constantly improve drinking water management and source water protection.

An environmental scan was conducted in the summer of 2006 to determine water and wastewater issues of significance within Saskatchewan. The scan also reviewed drinking water and surface water related performance measures or indicators used by other jurisdictions and found that Saskatchewan has greater diversity in its performance measures for drinking water quality than other jurisdictions, and compares favorably with source water protection related performance measures used by those jurisdictions. The following is a summary of the major items that can impact drinking water quality and the future plans of the SDWS to address the associated challenges.

SMALL COMMUNITY CHALLENGES

Very small waterworks, such as those serving less than 100 people, often lack the ability to finance improvements to meet water quality standards, particularly if the raw water supply is of poor quality to start with. These communities also find that compliance with requirements for operator certification and waterworks system assessment represents a significant financial pressure despite efforts by Saskatchewan Environment to develop policies that would achieve compliance at minimal cost.

In early 2007, regulatory changes to address stress points for smaller communities and other small waterworks are anticipated. These changes address concerns with training and retention of waterworks and sewage works operators and the need to conduct waterworks system assessments for small waterworks while helping to ensure the safety of drinking water for small communities in the province. Following implementation, continuous review of the results of monitoring and inspections activities will be necessary to ensure timely implementation and the provision of safe water.

CHALLENGES TO MEET EXISTING AND NEW WATER AND WASTEWATER TREATMENT STANDARDS

As operator certification has now been achieved, with a high level of success, further efforts will need to maintain progress to ensure the ongoing success of operator certification related requirements and the protection of drinking water supplies. To that end, Saskatchewan Environment will continue to work with operators, the Saskatchewan Water and Wastewater Association and the Operator Certification Board to track training, certification and continuing education compliance.

Deadlines to upgrade water treatment systems to meet drinking water turbidity and chemical standards are quickly approaching. Systems serving a population of less than 5,000 have until December 2008 for turbidity upgrades, and until December 2010 for chemical parameter upgrades. SE must continue to undertake strategic measures to help waterworks owners understand and achieve compliance with these drinking water quality standards. SE must also encourage the introduction of existing technology or new approaches to water production, which can attain the required levels of treatment. In some instances where raw water quality is limited, conversion to pipelines or alternative solutions will be necessary. Further development and introduction of small scale and effective potable water treatment systems is beginning by private industry and will be critical to further the provision of safe water for small or remote communities.

Upgrading of infrastructure to meet pending wastewater management requirements stemming from the *Canadian Environmental Protection Act*, the federal *Fisheries Act* and the development of a Canada-Wide Strategy (CWS) for the Management of Municipal Wastewater Effluents, is an approaching challenge in Saskatchewan and across Canada. Saskatchewan will need to continue to lead this national initiative and advance the work on the development of a harmonized "one-window" approach to wastewater effluent during 2007-08 and commence the actual adaptation of the CWS in 2008-09.

MUNICIPAL INFRASTRUCTURE FUNDING AND RELATED CHALLENGES

Provision of infrastructure funding will be critical in the future success of the Strategy and achievement of its safe drinking water goals. The environmental scan indicates that municipalities are demanding infrastructure funding at the national and provincial levels. The roles and responsibilities for infrastructure funding among the three levels of government need to be clarified.

The federal government has announced in its 2006 budget additional funding under the Canada-Saskatchewan Municipal Rural Infrastructure Fund (CSMRIF) and the Canada Strategic Infrastructure Fund. The CSMRIF is a key element in helping to ensure adequate water and wastewater infrastructure in the province.

Municipal Waterworks System Assessments (WSAs) provide information on immediate and long-term infrastructure needs for municipal water supply systems. The information from the WSAs will assist government in identifying waterworks infrastructure needs and solutions, including the allocation of infrastructure funding. Preliminary analysis of the WSAs indicates that municipalities require about $310 million to upgrade their waterworks systems, of which about $100 million is needed in the next five years.

Where applicable, municipalities must be encouraged to implement water and wastewater rate setting structures that work towards full cost recovery. The municipal waterworks regulations put in place by SGR are a good start towards full cost recovery.

NORTHERN WATER QUALITY RELATED NEEDS

Additional funding under the Northern Water and Sewer Program is needed to address critical northern projects identified under the municipal WSAs. The 2005 WSAs indicate $34.2 million was needed to undertake critical upgrading to northern water and sewer systems. Given the significant increase in costs since the assessments, this amount is now estimated to be about $50 million. Phase 1 of the Northern Water and Sewer Program is ending in 2007.

LEGISLATIVE AND REGULATORY GAPS AND CHALLENGES

Although regulatory amendments associated with small systems are to be completed in late 2006-07, there will be a need to deliver and track implementation of these changes to ensure the achievement of desired effects. Also, recent developments in the province have revealed gaps and potential risks remain in Saskatchewan's legislative and regulatory framework in terms of application where private wells are used as a supply of drinking water in subdivisions. There are currently no regulatory requirements for testing private water wells, including residence and business, to ensure residents have access to a source of potable water. Education and public awareness are effective tools to pressure developers and municipalities to consider central water and waste management for higher density residential developments, regardless of whether urban or rural.

Broadening the application of hygienic systems classification to include certain wastewater systems is part of the proposed regulatory changes. A revised policy for application of hygienic classification will be required as well as introduction and implementation of these requirements through late 2006-07 and 2007-08.

As a consequence of the Kashechewan First Nations water contamination incident in the fall of 2005, there has been a growing interest in the need for regulatory changes for First Nations water supplies. SE provided a presentation to a federal expert panel hearing on First Nations drinking water in July 2006 that highlighted Saskatchewan's approach to water management

based on the Safe Drinking Water Strategy and the progress made to date. The outcome of the expert panel hearings may have an influence on the demands that could be placed on Saskatchewan's Safe Drinking Water Strategy and associated program delivery.

SOURCE WATER PROTECTION

Protecting water sources is key to ensuring high quality drinking water. The Saskatchewan Watershed Authority's focus on source water protection comes with high expectations from the public and government and will be addressed under the close scrutiny of both. Planning continues on three priority Watershed/Aquifer Planning Areas with completion of four plans. Source protection can be addressed by proper siting of a water supply and aggressively protecting it from potential contaminants. Pressures on water resource management include: growing demand within and outside of the province; an increased need to identify reliable, high quality regional sources; the threat of contamination; the rising cost of acquiring data; and uncertainty about supplies with drought and potential changes in climate. There continues to be a need to collect and analyse data, map the resources, and review projects to protect ground water supplies. SE will need to begin advancing the new storm water guidelines as a means to minimize impacts and protect source waters.

INDUSTRIAL CHALLENGES

Many industries in Saskatchewan continue to rely on a reliable source of good quality water. These activities, if not properly managed, can threaten the very water supplies on which they rely. Water demand for intensive livestock operations (ILOs) and proper waste management are important in ensuring the viability of the industry. Industry such as oil and gas and mining also require water and carry potential to impact source water quality. Careful water use allocation, attention to water use efficiency and proper waste management must be maintained to ensure ongoing productivity and further growth. There is a further need to consider drinking water and wastewater management in an overall context, and through a green strategy, develop an Integrated Water Management Framework which considers all aspects of water management. This challenge will be addressed through a separate submission in a green strategy.

Changes from 2006-07 Performance Plan

The goals and objectives included in the Strategy's 2007-08 Performance Plan are unchanged from 2006-07. One performance measure (Goal 1, Objective 3) has been revised to better track and quantify the number and percentage of municipalities that have reported waterworks information on the financial sustainability of their systems and number and percentage of municipal waterworks that have reported rates that cover waterworks expenditures and debt payments and better gauge progress towards the associated objective. A number of key actions have been replaced or revised to address the evolving issues and challenges within the area of drinking water management and source water protection in the province.

Trendline information is provided for performance measures for the first time in the 2007-08 Performance Plan.

Goals, Objectives, Actions and Measures

This section provides the detailed 2007-08 Performance Plan for the SDWS that supports advancement towards the vision of a sustainable, reliable, safe and clean supply of drinking water that is valued by the citizens of Saskatchewan. Under each goal, a number of multi-year objectives have been established that support progress towards the broader goal statement. For each objective, a set of key actions that will be undertaken in 2007-08 has been identified along with the department or agency responsible. To assess whether key actions support and advance the objective, a set of performance measures has been established for each objective to gauge progress towards meeting the objective.

Major cost drivers for the Strategy include: infrastructure related demands and unexpected failures; field inspection; the need to address water contamination incidents and associated testing costs; the need to track and manage the application of emerging water quality related standards; natural events (flood or drought); equipment and waterworks system failures; and incidents affecting source water quality. Other elements affecting the success of the Strategy to some degree relate to the timing of decisions by project proponents, construction delays and significant weather events affecting construction, all which may impact progress on infrastructure improvements.

Many key actions within the Performance Plan have been revised to address the changing issues and trends.

Changes to *The Water Regulations, 2002* have been drafted by Saskatchewan Justice as of January 17, 2007, and are undergoing further review at this time. Saskatchewan Health has sent proposed amendments to *The Health Hazard Regulations, 2002* to Saskatchewan Justice for drafting.

GOAL 1

Waterworks systems and operations provide safe, clean and sustainable drinking water

OBJECTIVE 1 – Waterworks staff are capable and well-trained

Provision of safe drinking water is reliant on the knowledge and capabilities of waterworks operators and the manner in which they apply their skills to produce and monitor the quality of drinking water. Along with source protection, sound and capable infrastructure and water quality monitoring, knowledgeable operators capable of sound waterworks operations are one of the elements of a "multi-barrier approach" to ensure safe drinking water.

Key Actions for 2007-08

- Support and advance ongoing compliance and achievement of operator, training, certification and continuing education requirements through inspections, aligned policies workshops, and liaison with the Saskatchewan Water and Wastewater Association and the Operator Certification Board. Continue co-operative actions to facilitate advancement of First Nations operator certification. [Environment]
- Advance implementation of changes arising from consultation with the Certification Advisory Committee, by evaluating the need for all operators working at Environment regulated waterworks to certify to some level by 2010. [Environment]
- Advance operator continuing education opportunities along with training partners. [Environment]

What are we measuring?	**Progress to date**
Per cent of communities with human consumptive waterworks whose operators have received some level of certification	54.3% *[September 30, 2004]* 96.8% *[March 31, 2006]* *[Data Source: Operator Certification Board database]*

This performance measure quantifies the number of communities with waterworks operators that have been certified to some level and directly supports progress towards the objective. The greater the number of communities with certified operators, the greater the safety of the water supply. SE influences this measure by establishing regulations that require the certification of operators; however, it is up to each waterworks owner to ensure that they comply with the regulations.

***OBJECTIVE 2** – Infrastructure produces water that meets the national drinking water quality guidelines*

Infrastructure design, capability, condition and maintenance are critical in the production of safe drinking water. Standards, incentives, requirements, compliance measures and implementation plans must also be in place to ensure that waterworks are operated and monitored to achieve drinking water of a quality that protects human health. The *Guidelines for Canadian Drinking Water Quality* (see: http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index_e.html) are used in Canada as the definitive measure of a science-based safety criteria for drinking water. Saskatchewan has now adopted the guidelines as standards (see: http://www.se.gov.sk.ca/environment/protection/water/Drinking_Water_Standards_post.pdf).

Key Actions for 2007-08

- Implement and track strategies to aid small communities in ensuring the provision of safe water by affordable and publicly acceptable means. [Environment]
- Participate in the federal/provincial Committee on Drinking Water as a means to support development of the *Guidelines for Canadian Drinking Water Quality* and thereby support provision of safe drinking water in Saskatchewan. [Environment]
- Implement proactive measures to ensure timely compliance with drinking water quality standards at existing waterworks in the province that it regulates. [Environment]
- Implement a "cluster strategy" to establish regional anchors from which water services are delivered. This business growth allows the more cost-efficient and effective delivery of services compared to service provision on a one-off basis. Continue seeking to expand the customer base for its existing regional water supply systems. [SaskWater]
- To assist northern municipalities in providing safe drinking water and ensuring sewer systems do not contaminate surrounding areas and water sources: develop and implement phase 2 of the Northern Water and Sewer Program to address critical needs; continue to provide funding under the Northern Water and Sewer Program and the Northern Emergency Water and Sewer Repair Program; undertake work to develop a regional water and sewer operator program for northern communities; and continue to provide engineering, operating and maintenance advice to northern communities on their water and sewage systems. [Government Relations]
- Continue to provide funding under the Canada-Saskatchewan Municipal Rural Infrastructure Fund, including new funding announced by the federal government in its 2006 budget, to assist municipalities in providing safe drinking water and ensuring sewer systems do not contaminate surrounding areas and water sources. Saskatchewan Environment provides technical advice to Government Relations in reviewing applications to ensure the projects provide water that meets drinking water quality standards. [Government Relations and Environment]
- Negotiate with the federal government longer-term municipal infrastructure funding, where water and sewer projects would be funded within the context of all municipal infrastructure needs and priorities. [Government Relations]
- The Canada-Saskatchewan Infrastructure Program funding was intended to be completed by March 31, 2006; however, funding will continue to be paid out for water and sewer projects to the end of 2007-08, as they are completed. [Government Relations]

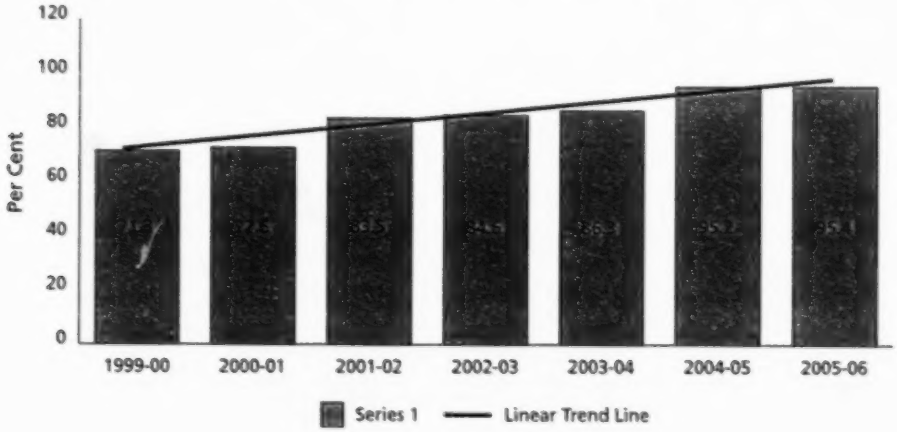
What are we measuring?

Per cent of facilities that meet bacteriological guidelines 90 per cent of the time

Progress to date

See graph below

FACILITIES THAT MEET BACTERIOLOGICAL GUIDELINES 90 PER CENT OF THE TIME



[Data Source: Saskatchewan Environment – Environmental Management System Database]

The bacteriological quality of water is a key component of ensuring safe drinking water because of the potential for short-term (relatively immediate) health effects in the event of contamination. Bacteriological water quality is a key component of the *Guidelines for Canadian Drinking Water Quality* and Saskatchewan's drinking water quality standards. They are presently in full effect in the province. Compliance with bacteriological water quality standards are a meaningful indicator of acute drinking water quality. SE has a high level of influence in the achievement of this requirement through regulations, education, compliance and enforcement actions.

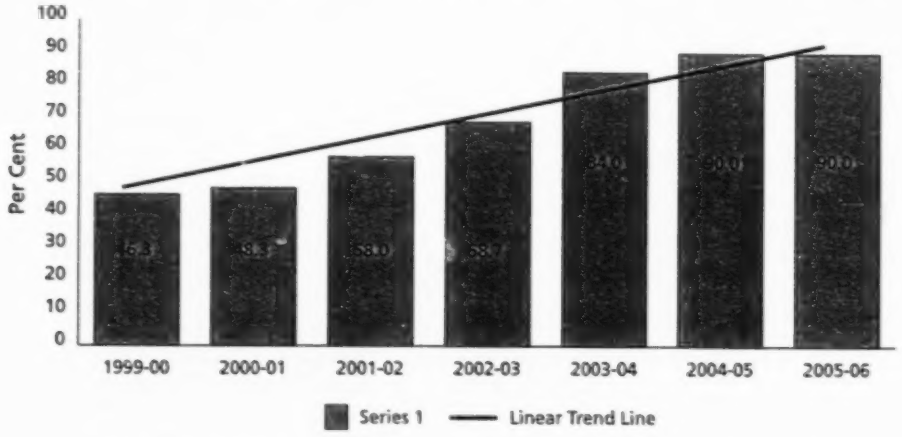
What are we measuring?

Per cent of waterworks (regulated by Saskatchewan Environment) that meet disinfection requirements 90 per cent of the time

Progress to date

See graph below

WATERWORKS THAT MEET DISINFECTION REQUIREMENTS 90 PER CENT OF THE TIME



[Data Source: Saskatchewan Environment – Environmental Management System Database]

Disinfection of drinking water is key to preventing the spread of many waterborne diseases and is, therefore, integral in the protection of public health. In order to ensure drinking water is free of bacterial concerns, a total chlorine residual of 0.5 mg/L or a free chlorine residual of 0.1 mg/L must be maintained throughout the distribution system. Compliance with disinfection requirements is a good measure of the success of compliance related activities and also a measure of the bacteriological (acute) safety of the water supply. To achieve increased compliance, waterworks operators and owners may be influenced through education, compliance and enforcement actions. There is a high correlation with waterworks having frequent bacteriological samples indicating the presence of bacteria and low chlorine residual maintenance.

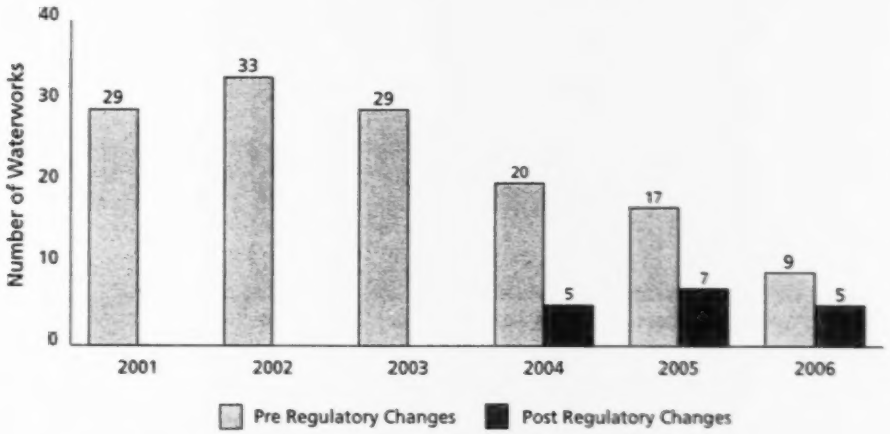
What are we measuring?

Number of waterworks that do not meet Saskatchewan Environment's minimum treatment requirements (broken down by pre and post regulatory changes)

Progress to date

See the graph below

NUMBER OF WATERWORKS THAT DO NOT MEET SASKATCHEWAN ENVIRONMENT'S MINIMUM TREATMENT REQUIREMENTS



[Data source: Saskatchewan Environment, Database]

Certain water treatment actions are required at waterworks as a means to ensure basic treatment and protection of drinking water. For systems using groundwater sources, disinfection is required. Treatment for systems using surface or blended water sources requires an acceptable form of filtration and disinfection. The number of waterworks that do not meet minimum treatment requirements is a good measure of infrastructure water treatment capability. There is a high level of influence through regulations, but given significant costs associated with treatment plants upgrades, changes to reduce the number of affected waterworks take time. Numerous existing waterworks that were not previously regulated are now being regulated. Some of these newly regulated waterworks do not meet minimum treatment requirements, therefore, this performance measure will be affected until these waterworks meet minimum standards.

***OBJECTIVE 3** – Waterworks systems and operations are financially sustainable*

Ensuring the financial sustainability of the water and wastewater works is critical in the production of safe drinking water and proper wastewater management over the long term. Waterworks deteriorate over time and may need to be replaced or expanded. Municipalities need to know the condition of their waterworks and put in place a pricing policy and capital investment strategy for these systems. Public transparency will aid in ensuring that water and wastewater systems are sustainable into the future.

Key Actions for 2007-08

- Monitor annual municipal public reporting on waterworks financial sustainability information, beginning September 1, 2006. Public reporting includes whether pricing policies and capital investment strategies have been established and the extent that waterworks revenues cover waterworks expenditures and debt payments. Municipalities use the WSAs required by Saskatchewan Environment to establish rate policies and capital investment strategies. The public information assists a ratepayer's understanding of the need for, and acceptance of, cost recovery rates. Waterworks with cost recovery rates are more likely to be able to provide safe drinking water. [Government Relations]

What are we measuring?

Number and percentage of municipalities that have reported waterworks information on the financial sustainability of their systems and number and percentage of municipal waterworks that have reported that have rates that cover waterworks expenditures and debt payments

Progress to date

Baseline information will be available in March 2007

This measure quantifies the number of municipalities that have reported financial sustainability information on their waterworks and have rates that cover waterworks expenditures and debt payments while gauging progress towards the objective. Government influences the measurement results through the established regulations. Lack of municipal capacity will limit some smaller municipalities from meeting the regulatory requirements. Some waterworks cannot be cost recovery, as the rates would be unacceptably high.

GOAL 2

The drinking water regulatory system is clear and effective

OBJECTIVE 1 – *Regulations are clear and ensure that health and drinking water quality will be protected*

Provision of safe drinking water is reliant on regulatory requirements that are clear and communicated to owners and operators of waterworks. Additionally, accepted standards and practices are required to ensure requirements are achieved in the proper manner. Program delivery and related policies are necessary to track and ensure that regulatory requirements are being met. Collectively, these measures will help to ensure that drinking water is safe and that wastewater effluent discharges do not threaten the quality of source waters or adversely impact the environment.

Key Actions for 2007-08

- Implement and track mechanisms to clarify and simplify regulatory requirements for owners of waterworks to advance compliance and water safety. [Environment]
- Examine and determine the need to address gaps in drinking water regulatory framework involving the use of private wells in municipal or sub-division settings. [Environment, Government Relations, Saskatchewan Health and Saskatchewan Watershed Authority]
- Work will continue with SUMA, SaskWater, consulting engineers and others to implement a program to facilitate waterworks assessment in the province. Waterworks assessment standards will continue to be provided to waterworks owners to inform them of the requirements and timelines of the assessment process. [Environment]
- Semi-public water systems are regulated through *The Health Hazard Regulations*. Compliance with these regulations is monitored through inspections of the semi-public water systems, ensuring that the operators are routinely sampling the water supply, and reviewing water quality test results. All health regions with the exception of the far north (Mamawetan Churchill River Health Region) will be striving for 100 per cent inspections of their public water supplies. Due to the geographic location of semi-public water systems in the north (access only by plane/boat), the Mamawetan Churchill River Health Region (MCRHR) will be using a risk-based approach for prioritizing inspections of water supplies that they regulate. [Health and Regional Health Authorities]
- Inspect waterworks across the province at a frequency of up to two inspections at each surface water and priority groundwater waterworks (based on compliance – minimum one inspection per year) and one inspection at every other regulated waterworks. Supplemental education and prevention activities will be delivered during inspections to help ensure waterworks meet operational and treatment requirements. Inspection protocols for department staff will be kept current for new water treatment technologies. [Environment]

- Revise the "Bacteriological Follow-up Protocol" and "Contaminated Drinking Water Follow-up Protocol" and other protocols, guidelines and fact sheets as needed to reflect evolving requirements, science and developments which could affect water safety. [Environment]
- Continue to implement the water and wastewater compliance and enforcement protocol to attain compliance with drinking water regulatory requirements. Department technical staff will receive new compliance and enforcement related training. [Environment]

What are we measuring?	**Progress to date**
Number of accredited drinking water testing laboratories	6 (all laboratories providing analysis for SE regulated waterworks to maintain accreditation) *[August 2006]* *[Data Source: Standards Council of Canada records]*

The number of accredited laboratories is a good measure of the ability of laboratories to ensure high quality and representative analytical results that reflect the true quality of drinking water. SE influences this measure through the establishment of regulations that effectively require water-testing labs to be accredited. However, lab owners must cover the cost of accreditation.

OBJECTIVE 2 – Professional regulatory staff have access to the tools necessary to ensure compliance

Provision of safe drinking water is reliant, in part, on the training and tools that regulatory staff access. The tools take the form of working agreements, computerized information systems as well as examples, guidelines and education information needed to deliver programming. Staff qualifications must also be assured and kept current with new or evolving water management processes. Collectively, these tools help to ensure drinking water is safe and wastewater effluent discharges do not threaten the quality of source waters or adversely impact the environment.

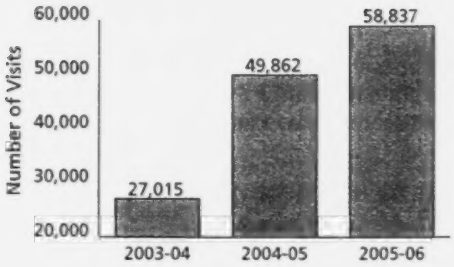
Key Actions for 2007-08

- Discussions will be held between officials (Environmental Project Officers, Medical Health Officers and Public Health Inspectors) to strengthen integration and exchange information on provincially regulated systems. [Environment]
- Further enhancement of the Environmental Management System (EMS) will be undertaken to support drinking water management, compliance activities and handle ever-increasing demand for data and information. Improvements include a reduction in the time needed to post information on water quality on the saskh2o website during 2007-08. [Environment]
- Examine timing issues with respect to northern Regional Health Authority (RHA) water sample testing. [Health]

What are we measuring?

Number and average duration of visits to the www.saskh2o.ca website

Progress to date



* *saskh2o website first commissioned on June 21, 2003.*

Note: Average duration is approximately 7 to 8 minutes.

The number and average duration of visits to the saskh2o website is a good measure of the use of tools that help ensure the protection of drinking water. The site and related databases provide easy access to information for department officials so that they can more readily perform their duties and track needed information to help ensure safe drinking water. The website also provides access to a variety of fact sheets, guidelines and legislation for waterworks owners, system operators and the public as a means to increase understanding of drinking water quality. The website provides up to date information on water quality for all waterworks that Saskatchewan Environment regulates. Although government controls the content of the website, it cannot directly influence use of the site.

GOAL 3

High quality source waters are protected now and into the future

OBJECTIVE 1 – Risks to source water quality are known

Protection of source water quality is a component of the provision of safe drinking water. Identifying the risks to source water quality is the first step in developing actions and strategies to protect source water and minimize the cost of treating drinking water. It is possible that other risks to source water quality will be identified by using the watershed planning and protection actions outlined below. Additional actions and measures will be considered, in the future, as a means to deal with potential new risks.

Key Actions for 2007-08

- Consider comments on the first State of Watershed Report, collect data and consider new indicators for a second State of Watershed Report planned for 2009. [Saskatchewan Watershed Authority]
- Continue assessment to determine the contribution of non-point agricultural sources to water quality and habitat degradation that can be used in the watershed planning activities and to measure the efficacy of Best Management Practices. [Saskatchewan Watershed Authority]
- Complete annual sewage works inspections to identify which systems represent a risk to source water quality and to ensure sewage works meet operational and treatment requirements. Improvements in wastewater management will be continued through owner and operator education and permitting methods. [Environment]
- Develop and implement an annual municipal wastewater reporting protocol. [Environment]
- Development of SE's Environmental Information Management System to support wastewater management, compliance activities and handle the ever increasing demand for data and information. [Environment]

What are we measuring?	**Progress to date**
Number of sewage effluent discharges that represent a risk to source waters	93 sewage works *[March 31, 2005]* 85 sewage works *[March 31, 2006]* *[Data Source: Saskatchewan Environment Database]*

The number of sewage effluent discharges that represent a risk to source waters are a good measure of the degree of protection afforded by wastewater treatment systems presently in place. Ensuring a minimum of secondary treatment and proper effluent discharge management will help to reduce risks to source water since wastes will be properly treated and released to the environment. SE has a high level of influence through regulations; however, the significant costs associated with upgrading wastewater works means reducing the number of systems that represent a risk to source water will take time to resolve.

OBJECTIVE 2 – Watersheds are protected, natural purification and protection processes are maximized and potential for contamination is minimized

Protection of source waters can reduce the cost of water treatment and improve water quality while helping to maintain other water uses. Sound water resource management means the processes that break down wastes must be protected, as must the land use practices that can protect water quality from contamination. Actions in terms of both organizational structure and watershed/water management are improving source water protection in the province.

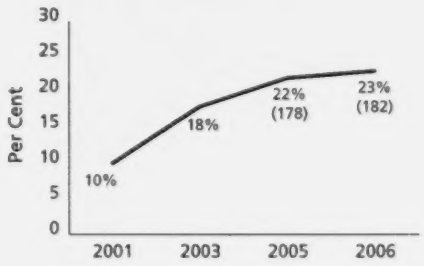
Key Actions for 2007-08

- Continue to lead the development of a Canada-wide Strategy for the Management of Municipal Wastewater Effluent (MWWE). [Environment]
- Work with municipalities with water sources identified as Groundwater Under Direct Influence of surface water to develop source water protection plans. [Environment]
- Facilitate the work of local planning committees to complete source water protection plans for the North Saskatchewan, South Saskatchewan and Upper Qu'Appelle River watersheds and co-ordinate the development of the provincial responses to these plans. Initiate new plans in selected watersheds. [Saskatchewan Watershed Authority]
- Assist designated watershed groups with the implementation of watershed plans and annually report progress. [Saskatchewan Watershed Authority]
- Continue co-operative development of an Integrated Water Management Framework. [All agencies participating in the SDWS]
- Implement revisions to *The Planning and Development Act, 1983*, to include municipal water source protection. [Government Relations]
- Continue to work with municipalities and the Saskatchewan Watershed Authority to develop and implement municipal water source protection by-laws on a watershed basis that are co-ordinated with staged implementation of watershed plans. This will help to ensure that the municipalities have by-laws in place that meet the standards required to protect the watersheds. [Government Relations]

What are we measuring?

Number and percentage of municipalities with by-laws in place to protect their drinking water supplies

Progress to date



[Data Source: Saskatchewan Government Relations records]

[By-laws have some form of water management policy]

The number of municipalities with by-laws in place to protect their drinking water supplies are a good measure of source water protection. By-laws will support work towards ensuring safe drinking water. Government Relations will encourage water source protection in municipal land use by-laws and has a moderate level of control over municipal by-laws that may be used to help to ensure protection of source waters.

What are we measuring?

Water Quality Index ratings for lakes

Progress to date

Waterbody	Year	Water Quality Index	
Jackfish Lake	2004	56.4	Marginal
Murray Lake	2004	67.6	Fair
Good Spirit Lake	2004	83.9	Good

[Latest data available]

The Water Quality Index is an overall measure of the quality of water for specific uses such as the protection of aquatic life, livestock watering, recreation, etc. The levels of chemicals and organisms in the samples are compared with the Water Quality Index levels for safety and health of people. The Index is a composite measure of different chemicals and organisms in the water and is used to help determine whether the water quality is safe for particular uses such as livestock watering, crop irrigation or protection of aquatic life. It is a good measure of the quality of surface or groundwater for all uses.

The Government has limited direct control over the results of this broad measure of water quality. While government regulates point source pollution, many human and natural factors can influence water quality.

What are we measuring?	Progress to date
Water Quality Index ratings for rivers	*Excellent* Churchill River *Good to Excellent* Assiniboine River, Beaver River, North Saskatchewan, South Saskatchewan, Saskatchewan River *Fair to Good* Qu'Appelle River, Souris River *Poor to Fair* Moose Jaw River *[Data Source: Saskatchewan Watershed Authority and Saskatchewan Environment surface water quality databases]*

The Water Quality Index ratings for rivers noted above are applicable, effective March 31, 2005. The Water Quality Index ratings for lakes noted above were first introduced and calculated in the 2006-07 fiscal year Performance Plan.

There are two locations along the Qu'Appelle River where the quality would be considered marginal for protection of aquatic life. The river ranges from fair to excellent for livestock watering and irrigation purposes.

Major water quality concerns along the Moose Jaw River stem from nutrients and suspended solids from man-made sources (wastewater discharge and agricultural activities) and natural variation (flow, run-off and snow melt).

GOAL 4

Citizens and consumers trust and value their drinking water and the operations which produce it

***OBJECTIVE 1** – Consumers value quality water and are willing to pay for it*

Saskatchewan residents are not always aware of the cost of providing safe drinking water. Protection of source waters, the ability to treat source water and ensure sustainable supplies is dependent on consumers that recognize the value of water and are willing to pay for it at present and in the future.

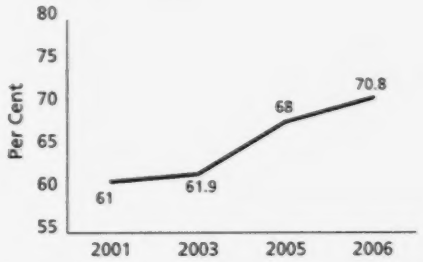
Key Actions for 2007-08

- Increased awareness of water and aquatic ecosystems by delivering high quality water related educational material, especially Project WILD and Project Wet, to Saskatchewan teachers. [Saskatchewan Watershed Authority]
- Provide public education material that focuses on the cost and value of water, benefits of better management of water demand and reducing water consumption. [Environment]

What are we measuring?

Per cent of survey respondents indicating that they are willing to pay more for their drinking water

Progress to date



[Data Source: Saskatchewan Environment and Omnibus polling results]

Public willingness to pay more for water is a measure of how much residents value safe drinking water provided through municipal or public treatment and supply works. It is also an indirect measure of the confidence and trust in drinking water supplies and the water provider's and government's ability to produce and ensure safe drinking water. Since this is measured through public polling, results could be influenced by events outside the province.

OBJECTIVE 2 – Citizens and consumers trust the quality and reliability of their drinking water systems and are confident in the regulatory system

Consumer trust in drinking water and regulatory systems that govern them is vital to ensuring the long-term sustainability of waterworks. Consumers who trust the quality and reliability of their water supplies are more willing to support the production of safe drinking water in the future. Release of polling results also bolsters transparency and public trust.

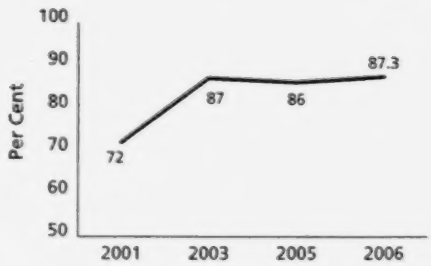
Key Actions for 2007-08

- Continue to implement the drinking water polling strategy and publish results, which allow for the tracking of public opinion and trust in drinking water and the associated regulatory systems. For 2007-08, polling will be expanded to examine how many residents drinking bottled water believe their community water is safe to drink. [Environment]
- Develop and deliver public messaging about the safety and quality of drinking water from water facilities that are meeting/exceeding drinking water regulatory requirements. [SaskWater and Environment]
- Establish awards recognizing communities providing exceptional water quality or water provision services. [Environment]

What are we measuring?

Per cent of survey respondents indicating that they are very or somewhat confident in the quality of their tap water

Progress to date



[Data Source: Saskatchewan Environment and Omnibus polling results]

Public confidence in drinking water quality is a good measure of public trust in the ability of waterworks owners and governments to deal with the challenges of providing safe water. Since this is measured through public polling, results could be influenced by events outside the province.

***OBJECTIVE 3** – Citizens have meaningful access to information about the quality of their water*

Information on water quality is important in building public trust in water systems. Information must be understandable, current and readily accessible. To build full trust, information needs to be available both from the waterworks owner and the regulator.

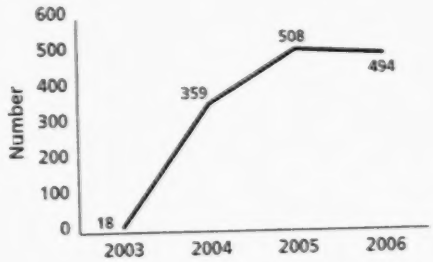
Key Actions for 2007-08

- As of September 1, 2006, and annually thereafter, municipalities are required to provide to the public key information on the financial sustainability of their waterworks, including the extent that revenues cover expenditures and debt payments. This information will help ratepayers understand the need for cost recovery rates. Cost recovery waterworks rates are more likely to be able to provide safe drinking water. [Government Relations]
- Use polling to track changes in public attitudes towards source water protection. [Saskatchewan Watershed Authority]
- Extend implementation of a Drinking Water Quality Index (DWQI) to more water users to convey easy to understand information to consumers on water quality and the adequacy of the systems that produce drinking water. Post DWQI information on the saskh2o website. [Environment]

What are we measuring?

Number of system owners that publicly release water quality results

Progress to date



[Data Source: Saskatchewan Environment – Environmental Management System database]

The number of system owners that publicly release water quality results is a good measure of the acceptance waterworks owners have in recognizing their responsibility for safety of water and education of the public. The Government has a high level of influence in achieving this requirement through regulations.

OBJECTIVE 4 – Reduced consumption of water

Reduced consumption of water is important in minimizing costs and thereby properly valuing water. Water conservation is also necessary to protect water source quality and abundance, particularly during times of increasing demand.

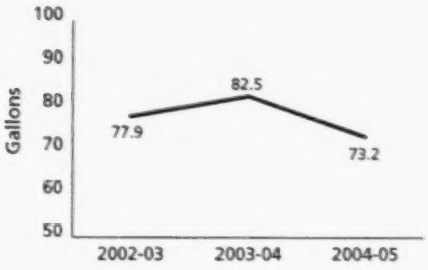
Key Actions for 2007-08

- Lead implementation of the Water Conservation Plan. [Saskatchewan Watershed Authority]

What are we measuring?

Average per capita consumption of water (gallons per day)

Progress to date



[Latest data available]

[Data Source: SaskWater and Saskatchewan Watershed Authority databases]

This measure quantifies the average water usage on a per capita basis and directly supports gauging progress towards the objective. The Government has a limited degree of control over this measure. However, it can influence the measurement result through its educational efforts.

For More Information

If you have any questions, comments or feedback about the Plan, need more information or would like additional copies, we invite you to call:

Saskatchewan Environment's Inquiry Centre: (306) 787-2700
Toll free in Saskatchewan: 1-800-567-4224

Or visit us on-line at:
http://www.se.gov.sk.ca

Additional information on drinking water is available at:
http://www.se.gov.sk.ca/environment/protection/water/water.asp
http://www.se.gov.sk.ca/environment/protection/water/drinking.asp
http://www.saskh2o.ca/